APR 1976

ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF PUBLIC WATER SUPPLIES

MINERAL ANALYSIS

Public Water Supply UNION

Sampling Point [redacted] County MCHENRY Region NE

Well # 3 Well Depth 93 FT Year Drilled 1962 Time Coll. 4:30 Date Collected MAY 17, 1976

Sample: Raw X Finished ____ Time Well Pump Operated ½ hrs. Pumpage Rate 470 GPM

Collected By: Timothy D. Pace Telephone No. 923-2446

PARAMETER	SYMBOL	mg/l	me/l	PARAMETER	SYMBOL	mg/l	me/l
Iron	Fe	2.1		Silica	SiO_2	10	
Manganese	Mn	0.09		Fluoride	F	0.2	
Calcium	Ca	86.		Chloride	Cl	42.	
Magnesium	Mg	41.		Nitrate	NO_3	0.6	
Ammonium	NH_4	0.44		Sulfate	SO_4	74.	
Sodium	Na	24.		Alkalinity (M) 305	as $CaCO_3$	~~340~~	
Potassium	K	2.7		Hardness	as $CaCO_3$		
Residue	Evap	412		Carbon Dioxide	CO_2		
Dissolved Solids by EC		501		Zinc	Zn	0.0	
Aluminum	Al			Methane	CH_4		
Arsenic	As	0.00		Phosphate	PO_4	0.39	
Barium	Ba	0.1		Phenol			
Boron	B	0.2		Oil			
Cadmium	Cd	0.00		Chromium (Tri)	Cr		
Chromium (Total)	Cr	0.00		Chromium (Hex)	Cr		
Copper	Cu	0.00		Organic Carbon			
Lead	Pb	0.00		Color			
Lithium	Li			Odor			
Mercury	Hg	0.0 ppb		Temperature	°F		
Nickel	Ni	0.0 ppm		Turbidity			
Selenium	Se	0.00		Alpha pc/l		10.0	
Silver	Ag	0.00		± deviation		0.0	
Strontium	Sr			Beta pc/l		1.8	
Cyanide	CN	0.00		± deviation		1.9	
Hydrogen Sulfide	H_2S						

NOTE: mg/l = milligrams/liter
= parts per million (ppm)
me/l = millicquivalents/l
mg/l × 0.0583 = grains/gallon

Specific Conductance 840 micromhos/cm

pH value (as received) 7.8

This space reserved for laboratory use 45346

Lab number ____ Rec'd By CKohler

Date Sample rec'd JUL 6 1976 Time 1430

Date Analyses completed JUL 8 1976

Date results forwarded ____

Total Tests Requested ____ Tests Run ____

Lab section ____ Supervisor ____

JUL 16 1976

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C 6009 FLD-010

ENVIRONMENTAL PROTECTION AGENCY

COMPLETE
MINERAL ANALYSIS

DIVISION OF PUBLIC WATER SUPPLIES

Public Water Supply UNION

Sampling Point Well discharge County McHenry Region Aurora

Well # 3 Well Depth 80' Year Drilled 1962 Time Coll. 3:10 PM Date Collected 2/5/76

Sample: Raw X Finished ____ Time Well Pump Operated 1 hrs. Pumpage Rate 450 GPM

Collected By: M. Dailland EPA Telephone No. 312/896-5001

PARAMETER	SYMBOL	mg/l	me/l	PARAMETER	SYMBOL	mg/l	me/l
Iron	Fe	0.1		Silica	SiO_2		
Manganese	Mn	0.08		Fluoride	F	0.4	
Calcium	Ca	84		Chloride	Cl	32	
Magnesium	Mg	40		Nitrate	NO_3	1.3	
Ammonium NH_3	~~DNK~~	0.45 (NH_3=0.5%)		Sulfate	SO_4	75	
Sodium	Na	18		Alkalinity	as $CaCO_3$	302	
Potassium	K	2.6		Hardness	as $CaCO_3$	378	
Residue	Evap	428		Carbon Dioxide	CO_2		
Dissolved Solids by EC		460		Zinc	Zn	0.01	
Aluminum	Al			Methane	CH_4		
Arsenic	As	0.002		Phosphate	PO_4	0.63	
Barium	Ba	0.1		Phenol			
Boron	B	0.4		~~Oil~~ Silica	SiO_2	12.0	
Cadmium	Cd	0.00		Chromium (Tri)	Cr	0.00	
Chromium (Total)	Cr	0.00		Chromium (Hex)	Cr	0.00	
Copper	Cu	0.00		Organic Carbon			
Lead	Pb	0.00		Color			
Lithium	Li			Odor			
Mercury	Hg	0.0 ~~ppb~~		Temperature	°F		
Nickel	Ni	0.0		Turbidity			
Selenium	Se	0.00		Alpha pc/l		0.2	
Silver	Ag	0.00		± deviation		0.8	
Strontium	Sr			Beta pc/l		4.0	
Cyanide	CN	0.00		± deviation		1.7	
Hydrogen Sulfide	H_2S						

NOTE: mg/l = milligrams/liter
= parts per million (ppm)
me/l = milliequivalents/l
mg/l × 0.0583 = grains/gallon

Specific Conductance 766 micromhos/cm

pH value (as received) 7.8

This space reserved for laboratory use

Lab number 2006009 Rec'd By N Kay

Hand-delivered by M. Dailland ←

Date Sample rec'd 2-6-76 Time 10:15 am

Date Analyses Completed 2-23-76

Date results forwarded 2-23-76

Total Tests requested 34 Tests Run 34

Lab section Chicago Supervisor J Daugherty

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ISWS/BUL-60/19 1/76
BULLETIN 60-19
STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION

Public Groundwater Supplies in McHenry County

by DOROTHY M. WOLLER and ELLIS W. SANDERSON

ILLINOIS STATE WATER SURVEY
URBANA
1976

services; the 1973 average and maximum daily pumpages were 2700 and 4000 gpd, respectively. The water is chlorinated. The natural fluoride concentration in the water is adequate to satisfy state requirements.

WELL NO. 1, finished in dolomite, was completed in March 1971 to a depth of 395 ft by Joseph Huemann & Sons, McHenry. The well is located (b) (9) [redacted]. The land surface elevation at the well is approximately 920 ft.

A drillers log of Well No. 1 follows:

Strata	Thickness (ft)	Depth (ft)
Clay	10	10
Gravel	30	40
Hardpan	172	212
Limestone	8	220
Blue shale	5	225
Gray shale	105	330
Limestone	65	395

The well is cased with 12-in. black pipe to an unknown depth and the hole was finished 12 in. in diameter to the bottom. The top of the well casing is equipped with a Monitor pitless adapter.

Upon completion, the well reportedly produced 400 gpm for 12 hr with a drawdown of 60 ft from a nonpumping water level of 88 ft below land surface.

The pumping equipment presently installed is a Red Jacket submersible pump set at 252 ft, rated at 450 gpm, and powered by a 50-hp electric motor.

The following mineral analysis (Lab. No. 195667) is for a water sample from the well collected May 14, 1974.

WELL NO. 1, LABORATORY NO. 195667

		mg/l	me/l			mg/l	me/l
Iron (total)	Fe	0.2		Silica	SiO_2	7.7	
Manganese	Mn	0.03		Fluoride	F	3.0	
Ammonium	NH_4	0.1	0.01	Boron	B	1.5	
Sodium	Na	169	7.35	Nitrate	NO_3	0.5	0.01
Potassium	K	2.5	0.06	Chloride	Cl	6	0.17
Calcium	Ca	2.7	0.13	Sulfate	SO_4	1.2	0.02
Magnesium	Mg	1.2	0.10	Alkalinity (as $CaCO_3$)		366	7.32
Strontium	Sr	0.12					
Barium	Ba	< 0.1		Hardness (as $CaCO_3$)		11	0.23
Copper	Cu	0.06					
Cadmium	Cd	0.00		Total dissolved minerals		432	
Chromium	Cr	0.00					
Lead	Pb	< 0.05		Turbidity		1	
Lithium	Li	0.03		Color		0	
Nickel	Ni	< 0.05		Odor		0	
Zinc	Zn	0.00		Temp. (reported)		53F	

UNION

The village of Union (579) installed a public water supply in 1912. One well (No. 3) is in use and another well (No. 2) is available for emergency use. In 1949 there were 125 services, none metered; the average daily pumpage was 30,000 gpd. In 1975 there were 150 services, none metered; the average and maximum daily pumpages were 96,737 and 145,000 gpd, respectively. The water from Well No. 2 is not treated. The water from Well No. 3 is chlorinated, fluoridated, and treated with polyphosphate to keep iron in solution.

WELL NO. 1, finished in sand and gravel, was completed in 1912 to a depth of 16 ft (measured 18.4 ft in 1928). This well was abandoned in 1935 and filled in between 1938 and 1947. The well was located about 45 ft south of Clark St. and 120 ft west of Wayne St., approximately 1550 ft S and 2500 ft E of the NW corner of Section 4, T43N, R6E. The land surface elevation at the well is approximately 835 ft.

A 10-ft diameter hole was dug to the bottom and walled with brick laid in cement mortar.

Nonpumping water levels varied seasonally from about 6 to 12 ft below land surface.

On September 7, 1938, after a short pumping period, the rate of inflow to the well was measured to be about 90 gpm.

WELL NO. 2, finished in dolomite in the Maquoketa Group, was completed in 1934 to a depth of 192 ft by P. E. Millis, Byron. This well is maintained for emergency use. The well is located (b) (9) [redacted]. The land surface elevation at the well is approximately 835 ft.

A summary sample study log of Well No. 2 furnished by the State Geological Survey follows:

Strata	Thickness (ft)	Depth (ft)
PLEISTOCENE SYSTEM		
Wisconsin stage		
Gravel, sandy, oxidized, brown	5	5
Gravel, up to 1/2 in., sandy	5	10
Gravel, granular, sandy	5	15
Gravel, up to 1/4 in., sandy	15	30
Gravel, granular	5	35
Till, calcareous, maroon (Marengo)	30	65
Till, calcareous, pinkish-gray, tan	5	70
Quartzitic fragments, boulder	2	72
Till, as above	48	120
Same, gravelly	10	130
Illinoian (?) stage		
Till, calcareous, light brown	15	145
ORDOVICIAN SYSTEM		
Maquoketa shale		
Shale, light greenish-gray	5	150
Dolomite, crystalline, pyritic, white	40	190

The well is cased with 12-in. pipe from land surface to a depth of 150 ft.

In September 1955, after pumping at a rate of 74 gpm, the drawdown was 23.3 ft from a nonpumping water level of 47.5 ft.

In July 1958, the well reportedly produced 150 gpm for 6 min with a drawdown of 86 ft from a nonpumping water level of 50 ft below the pump base.

The pumping equipment presently installed consists of a 10-hp U.S. electric motor, an 8-in., 5-stage Layne turbine pump set at 150 ft, rated at 150 gpm at about 150 ft TDH, and has 150 ft of 5-in. column pipe. A 10-ft section of 4-in. suction pipe is attached to the pump intake.

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. C006008) is for a water sample from the well collected February 5, 1976, after 15 min of pumping at 150 gpm. The iron content has been as low as 0.1 on a previous analysis.

WELL NO. 2, LABORATORY NO. C006008

		mg/l	me/l			mg/l	me/l
Iron	Fe	4.3		Silica	SiO_2	9.5	
Manganese	Mn	0.01		Fluoride	F	0.6	0.03
Ammonium	NH_4	0.98	0.05	Boron	B	0.7	
Sodium	Na	26	1.13	Nitrate	NO_3	0.6	0.01
Potassium	K	5.8	0.15	Chloride	Cl	2	0.06
Calcium	Ca	38	1.90	Sulfate	SO_4	0	0.00
Magnesium	Mg	26	2.14	Alkalinity (as $CaCO_3$)		276	5.52
Arsenic	As	0.000					
Barium	Ba	0.3		Hardness (as $CaCO_3$)		209	4.18
Copper	Cu	0.02					
Cadmium	Cd	0.00		Total dissolved minerals		276	
Chromium	Cr	0.00					
Lead	Pb	0.01					
Mercury	Hg	0.0000		pH (as rec'd)		8.1	
Nickel	Ni	0.0		Radioactivity			
Selenium	Se	0.00		Alpha *pc/l*		1.6	
Silver	Ag	0.00		± deviation		1.0	
Cyanide	CN	0.00		Beta *pc/l*		8.6	
Zinc	Zn	0.01		± deviation		1.6	

WELL NO. 3, finished in sand and gravel, was completed in March 1962 to a depth of 80 ft by the J. P. Miller Artesian Well Co., Brookfield. The well is located (b) (9) [redacted] The land surface elevation at the well is approximately 832 ft.

A drillers log of Well No. 3 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Top soil	3	3
Sand	12	15
Sand and gravel	65	80

A 30-in. diameter hole was drilled to a depth of 80 ft. The well is cased with 12-in. wrought iron pipe from land surface to a depth of 60 ft followed by 20 ft of 12-in. No. 90 slot Cook stainless steel screen. The annulus between the bore hole and the casing-screen assembly is filled with clay and bentonite from 0 to 50 ft and with gravel from 50 to 80 ft.

Upon completion, the well reportedly produced 350 gpm for 3 hr with a drawdown of 4 ft from a nonpumping water level of 6 ft below the top of the casing.

In July 1969, after 10 min of pumping at a rate of 450 gpm, the drawdown was 3 ft from a nonpumping water level of 10 ft.

In 1970, the nonpumping water level was reported to be 20 ft.

The pumping equipment presently installed is a 10-in., 5-stage Byron Jackson oil-lubricated turbine pump (Serial No. 700229, Size 10 GL-5-STG) set at 40 ft, rated at 350 gpm at about 200 ft head, and powered by a 30-hp 1800 rpm U.S. electric motor (Serial No. 3385012).

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. C006009) is for a water sample from the well collected February 5, 1976, after 1 hr of pumping at 450 gpm. Hydrogen sulfide has been apparent on previous samples.

WELL NO. 3, LABORATORY NO. C006009

		mg/l	me/l			mg/l	me/l
Iron	Fe	2.1		Silica	SiO_2	12.0	
Manganese	Mn	0.08		Fluoride	F	0.4	0.02
Ammonium	NH_4	0.58	0.03	Boron	B	0.4	
Sodium	Na	18	0.78	Nitrate	NO_3	1.3	0.02
Potassium	K	2.6	0.07	Chloride	Cl	32	0.90
Calcium	Ca	84	4.19	Sulfate	SO_4	75	1.56
Magnesium	Mg	40	3.29	Alkalinity (as $CaCO_3$)		302	6.04
Arsenic	As	0.002					
Barium	Ba	0.1		Hardness (as $CaCO_3$)		378	7.56
Copper	Cu	0.00					
Cadmium	Cd	0.00		Total dissolved minerals		428	
Chromium	Cr	0.00					
Lead	Pb	0.00					
Mercury	Hg	0.0000		pH (as rec'd)		7.8	
Nickel	Ni	0.0		Radioactivity			
Selenium	Se	0.00		Alpha *pc/l*		0.2	
Silver	Ag	0.00		± deviation		0.8	
Cyanide	CN	0.00		Beta *pc/l*		4.0	
Zinc	Zn	0.01		± deviation		1.7	

WALKUP WOODS SUBDIVISION

Walkup Woods Subdivision (est. 385), located 1 mile north of Crystal Lake, installed a public water supply in 1959. The water system is owned and operated by the Walkup Woods Water Co. of Utilities, Inc., and also furnishes water to Walkup Highlands and Upland Acres Subdivisions. One well (No. 1) is in use and another well (No. 2) is available for emergency use. In 1960 there were 20 services, few metered. In 1973 there were 90 services, all metered; the average and maximum daily pumpages were 66,000 and 75,000 gpd, respectively. The water is chlorinated and treated with polyphosphate to keep iron in solution.

WELL NO. 1, finished in sand and gravel, was completed in November 1956 to a depth of 272 ft by the Henry Boysen Co., Libertyville. The well is located (b) (9) [redacted] The land surface elevation

house floor to a depth of 124 ft followed by 11 ft of 8-in. No. 25 slot Johnson Everdur screen.

Upon completion, the well reportedly produced 200 gpm for 8 hr with a drawdown of 15 ft from a nonpumping water level of 40 ft.

In 1965, the pump started to pump air, so the well was acidized, and the pump lowered from 80 to 110 ft.

The pumping equipment presently installed is a 6-in., 5-stage Sta-Rite turbine pump (Model No. 6MoH5STG, Serial No. 016499) set at 110 ft, rated at 90 gpm, and powered by a 15-hp 3600 rpm U.S. electric motor (Serial No. 2545739).

A drillers log of Well No. 2 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Top soil and brown clay	18	18
Clay and gravel	22	40
Mushy sand and clay	30	70
Hard gravel and clay	28	98
Fine dirty sand	12	110
Fine sand clean	10	120
Clean coarse gravel	15	135

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. 03956) is for a water sample from the well collected January 29, 1972.

WELL NO. 2, LABORATORY NO. 03956

		mg/l	*me/l*			*mg/l*	*me/l*
Iron	Fe	3.0	0.11	Silica	SiO_2	14.5	
Manganese	Mn	0.0		Fluoride	F	0.8	0.04
Ammonium	NH_4	0.5	0.03	Boron	B	0.3	
Sodium	Na	24		Nitrate	NO_3	0.0	
Potassium	K	1.0	0.03	Chloride	Cl	1.0	0.03
Calcium	Ca	40	2.00	Sulfate	SO_4	0	
Magnesium	Mg	27.5	2.26	Alkalinity (as $CaCO_3$)		256	5.12
				Hardness (as $CaCO_3$)		204	
Barium	Ba	0.0		Total dissolved minerals		230	
Copper	Cu	0.0		pH (as rec'd)		7.7	
Cadmium	Cd	0.00		Radioactivity			
Chromium	Cr	0.0		Alpha *pc/l*		1	
Lead	Pb	0.00		±deviation		1	
Mercury	Hg	<0.0005		Beta *pc/l*		0	
Nickel	Ni	0.0		±deviation		1	
Silver	Ag	0.0					
Zinc	Zn	0.0					

MARENGO

The city of Marengo (4235) installed a public water supply in 1893. Two wells (Nos. 4 and 5) are in use. This supply is also cross connected with the Arnold Engineering Co. well. In 1949 there were 700 services; the average daily pumpage was 300,000 gpd. In 1973 there were 1177 services, all metered; the average and maximum daily pumpages were 390,000 and 780,000 gpd, respectively. The water is fluoridated.

WELL NO. 1, finished in sand and gravel, was completed in 1893 to a depth of 15 ft. This well was abandoned and filled to the land surface in 1938. The well was located at the northeast corner of Telegraph Road and State St., approximately 57 ft N and 70 ft E of the SW corner of Section 25, T44N, R5E. The land surface elevation at the well is approximately 810 ft.

A drillers log of Well No. 1 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Black soil and clay	3	3
Sand and gravel	12	15

A 20-ft diameter hole was dug to a depth of 15 ft. The well was lined with brick and concrete (1.5 ft thickness) from 1.5 ft above land surface to a depth of 15 ft.

A production test using three observation wells was conducted by the Randolph-Perkins Co., Chicago, on May 27, 1924. After 6.6 hr of pumping at rates of 154 to 171 gpm, the final pumping level was 12.89 ft.

A second production test using three observation wells was conducted on November 12-13, 1924. After 9.5 hr of pumping at rates of 150 to 157 gpm, the final drawdown was 6.19 ft from a nonpumping water level of 7.00 ft below land surface.

WELL NO. 2, finished in sand and gravel, was completed in 1925 to a depth of 21 ft (measured in July 1947 at 20.6 ft deep). This well was abandoned and filled in 1962. The well was located about 70 ft northeast of Well No. 1, approximately 100 ft N and 130 ft E of the SW corner of Section 25, T44N, R5E. The land surface elevation at the well is approximately 810 ft.

A drillers log of Well No. 2 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Black soil and clay	3	3
Sand and gravel	18	21

A 25-ft diameter hole was dug to a depth of 21 ft. The well was lined with brick and concrete (1 ft in thickness) from 1 ft above land surface to a depth of 21 ft. This well was originally connected to Well No. 1 by a 4-in. pipe laid about 15 ft below land surface.

In August 1946, following a period of drought, the water level was lowered to the bottom of the well after pumping at a rate of 450 gpm for 1 hr. After a 15-min idle period, the water level recovered to its normal level.

On July 15, 1947, the well reportedly produced 150 gpm for 3 hr with a drawdown of 4.4 ft from a nonpumping water level of 7.3 ft below land surface.

A mineral analysis of a sample (Lab. No. 111091) collected July 15, 1947, after pumping for 3 hr at 150 gpm, showed the water to have a hardness of 378 mg/l, total dissolved minerals of 412 mg/l, and an iron content of 0.2 mg/l.

WELL NO. 3 (formerly Borden Milk Co. well), open to the Cambrian-Ordovician aquifer, was completed in May 1951 to a depth of 1028 ft by the Varner Well and Pump Co., Dubuque, Iowa. This well is not in use because of a pump failure and a high hydrogen sulfide. The well is located on North Sponable St. south of West Railroad St., approximately 960 ft S and 1540 ft W of the NE corner of Section 35, T44N, R5E. The land surface elevation at the well is approximately 817 ft.

A correlated sample study log of Well No. 3 furnished by the State Geological Survey follows:

Strata	*Thickness (ft)*	*Depth (ft)*
QUATERNARY SYSTEM		
Pleistocene Series		
Till and outwash	190	190
ORDOVICIAN SYSTEM		
Galena Dolomite Group	185	375
Platteville Dolomite Group	110	485
Ancell Group		
Glenwood Formation	155	640
St. Peter Sandstone	65	705
CAMBRIAN SYSTEM		
Eminence Dolomite	25	730
Potosi Dolomite	60	790
Franconia Formation	75	865
Ironton Sandstone	90	955
Galesville Sandstone	65	1020
Eau Claire Formation	8	1028

A partial record shows that a 17.2-in. diameter hole was drilled between the depths of 181.5 and 538 ft, and finished 12 in. in diameter from 538 to 1028 ft. The well is cased with 20-in. ID pipe from 4 ft below land surface to a depth of 70 ft, 18-in. OD pipe from land surface to a depth of 182 ft, and 12-in. OD pipe from 2 ft above land surface to a depth of 538 ft (cemented in).

On May 1, 1951, after 4 hr of pumping at a rate of 508 gpm, the drawdown was 109 ft from a nonpumping water level of 90 ft below the top of the casing.

On April 30, 1958, the well reportedly produced 300 gpm for 10 min with a drawdown of 61 ft from a nonpumping water level of 116 ft below the pump base.

On February 10, 1976, the well reportedly produced 500 gpm for 4 hr with a drawdown of 133 ft from a nonpumping water level of 145 ft.

The pumping equipment presently installed consists of a 50-hp 1760 rpm Louis Allis electric motor (No. 2366144), a Layne and Bowler turbine pump (No. 23294) set at 270 ft, and has 270 ft of column pipe. The well is equipped with 270 ft of airline.

A partial analysis of a sample (Lab. No. 201080) collected February 10, 1976, after pumping for 4 hr at 500 gpm, showed the water to have a hardness of 352 mg/l, total dissolved minerals of 373 mg/l, and an iron content of 0.8 mg/l. Hydrogen sulfide also was apparent when the sample was collected.

WELL NO. 4, finished in sand and gravel, was completed in January 1962 to a depth of 100 ft by the J. P. Miller Artesian Well Co., Brookfield. The well is located [redacted] (b) (9) [redacted]. The land surface elevation at the well is approximately 805 ft.

A drillers log of Well No. 4 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Top soil	2	2
Sand	20	22
Sand and gravel	10	32
Sand and clay	28	60
Clay	5	65
Sand, gravel, and boulders	35	100

A 30-in. diameter hole was drilled to a depth of 100 ft. The well is cased with 12-in. pipe from land surface to a depth of 75 ft followed by 25 ft of 12-in. No. 90 slot Cook stainless steel screen. The top of the well casing is equipped with a 16-in. diameter pitless adapter. The annulus between the bore hole and casing-screen assembly is filled with sand and bentonite from 0 to 50 ft and with gravel from 50 to 100 ft.

A production test was conducted by the driller on January 4-5, 1962. After 23.1 hr of pumping at rates of 400 to 1000 gpm, the drawdown was 49 ft from a nonpumping water level of 3 ft below land surface.

The pumping equipment presently installed consists of a 40-hp 1750 rpm Byron Jackson electric motor, a 10-in., 5-stage Byron Jackson submersible pump set at 65 ft, rated at 500 gpm at about 210 ft head, and has 60 ft of 6-in. column pipe. The well is equipped with 65 ft of airline.

A partial analysis of a sample (Lab. No. 201081) collected February 10, 1976, after pumping for 0.3 hr at 400 gpm, showed the water to have a hardness of 416 mg/l, total dissolved minerals of 484 mg/l, and an iron content of 2.6 mg/l.

WELL NO. 5, finished in sand and gravel, was completed in March 1962 to a depth of 85 ft by the J. P. Miller Artesian Well Co., Brookfield. The well is located [redacted] (b) (9) [redacted], R5E. The land surface elevation at the well is approximately 810 ft.

A drillers log of Well No. 5 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Top soil	5	5
Sand	10	15
Gravel	70	85

A 30-in. diameter hole was drilled to a depth of 85 ft. The well is cased with 12-in. wrought iron pipe from within a concrete foundation block to a depth of 60 ft followed by 25 ft of 12-in. No. 40 slot Cook screen. The annulus between the bore hole and casing-screen assembly is filled with sand and bentonite from 0 to 50 ft and with silica gravel from 50 to 85 ft.

A production test was conducted by the driller on March 9, 1962. After 15 hr of pumping at rates of 350 to 1010 gpm, the final drawdown was 47 ft from a nonpumping water level of 6 ft below the top of the casing.

On January 17, 1975, the nonpumping water level was reported to be 18 ft.

The pumping equipment presently installed consists of a 40-hp 1750 rpm U.S. Holloshaft electric motor, a 10-in., 5-stage Byron Jackson turbine pump set at 40 ft, rated at 500 gpm at about 210 ft head, and has 40 ft of 6-in. column pipe. The well is equipped with 40 ft of airline.

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. B120113) is for a water sample from the well collected January 6, 1975, after 1 hr of pumping at 530 gpm.

WELL NO. 5, LABORATORY NO. B120113

		mg/l	me/l			mg/l	me/l
Iron	Fe	0.6		Silica	SiO_2	13	
Manganese	Mn	0.2		Fluoride	F	0.1	0.00
Ammonium	NH_4	0.1	0.01	Boron	B	0.1	
Sodium	Na	19	0.83	Nitrate	NO_3	3.3	0.05
Potassium	K	2.3	0.06	Chloride	Cl	60	1.69
Calcium	Ca	89	4.44	Sulfate	SO_4	70	1.46
Magnesium	Mg	41	3.37	Alkalinity (as $CaCO_3$)		288	5.76
Arsenic	As	0.00		Hardness (as $CaCO_3$)		390	7.80
Barium	Ba	0.1					
Copper	Cu	0.00		Total dissolved minerals		441	
Cadmium	Cd	0.00					
Chromium	Cr	0.00		pH (as rec'd)	7.6		
Lead	Pb	0.00		Radioactivity			
Mercury	Hg	0.0003		Alpha *pc/l*	1.4		
Nickel	Ni	0.0		± deviation	1.9		
Selenium	Se	0.00		Beta *pc/l*	0.3		
Silver	Ag	0.00		± deviation	1.9		
Cyanide	CN	0.00					
Zinc	Zn	0.0					

PISTAKEE HIGHLANDS SUBDIVISION

Pistakee Highlands Subdivision (est. 1630), located 0.5 mile northeast of Sunnyside, installed a public water supply in 1954. The water system is owned and operated by the Pistakee Highlands Water Co. of Utilities, Inc. One well (No. 2) is in use and another well (No. 1) is maintained for emergency use. This supply is cross connected with the Whispering Hills Water Co. In 1955 there were 90 services, all metered. In 1973 there were 480 services, all metered; the estimated average and maximum daily pumpages were 63,000 and 95,000 gpd, respectively. The water is chlorinated and treated with polyphosphate to keep iron in solution.

WELL NO. 1, finished in sand and gravel, was completed in September 1954 to a depth of 93 ft by Joseph Huemann & Sons, McHenry. This well is maintained for emergency use. The well is located [redacted]. The land surface elevation at the well is approximately 780 ft.

A drillers log of Well No. 1 follows:

Strata	Thickness (ft)	Depth (ft)
Sand and gravel	27	27
Red clay and stones	9	36
Clay	19	55
Sandy clay	6	61
Clay and stones	7	68
Sticky sand	19	87
Gravel	6	93

A 12-in. diameter hole was drilled to a depth of 93 ft. The well is cased with 12-in. pipe from 1.2 ft above the pumphouse floor to a depth of 83 ft followed by 10 ft of 12-in. No. 18 slot Johnson Everdur stainless steel screen.

Upon completion, the well reportedly produced 250 gpm for 12 hr with a drawdown of 10 ft from a nonpumping water level of 43 ft below the pump base.

Nonpumping water levels were reported to be 44 ft in February 1961, and 41.80 ft below land surface on October 23, 1964.

The pumping equipment presently installed is a Deming submersible pump set at 80 ft, rated at 50 gpm, and powered by a 25-hp 3600 rpm U.S. electric motor (Model No. A132520-2, Serial No. 1316715).

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. 03539) is for a water sample from the well collected December 30, 1971, after 30 min of pumping.

WELL NO. 1, LABORATORY NO. 03539

		mg/l	me/l			mg/l	me/l
Iron	Fe	0.1	0.00	Silica	SiO_2	24	
Manganese	Mn	0.0		Fluoride	F	0.4	0.02
Ammonium	NH_4	0.0		Boron	B	0.0	
Sodium	Na	11.4	0.50	Nitrate	NO_3	0.0	
Potassium	K	0.9	0.02	Chloride	Cl	7.5	0.21
Calcium	Ca	72	3.59	Sulfate	SO_4	55	1.14
Magnesium	Mg	44	3.62	Alkalinity (as $CaCO_3$)		296	5.92
Barium	Ba	0.0		Hardness (as $CaCO_3$)		356	
Copper	Cu	0.0		Total dissolved minerals		380	
Cadmium	Cd	0.00					
Chromium	Cr	0.0		pH (as rec'd)	7.7		
Lead	Pb	0.00		Radioactivity			
Mercury	Hg	< 0.0005		Alpha *pc/l*	0		
Nickel	Ni	0.0		± deviation	1		
Silver	Ag	0.0		Beta *pc/l*	0		
Zinc	Zn	0.0		± deviation	2		

WELL NO. 2, finished in sand and gravel, was completed in September 1956 to a depth of 202 ft by Joseph Huemann & Sons, McHenry. The well is located [redacted]. The land surface elevation at the well is approximately 782 ft.

A drillers log of Well No. 2 follows:

REFERENCE NUMBER 3

RECEIVED
FEB 26 1973
IEPA/DLPC

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 181 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. 5 in. Depth 181 ft.
   c. Drilled xx. Finished in Drift _____. In Rock xx.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field 100
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 100 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Is water from this well to be used for human consumption?
   Yes xx No_____
4. Date well completed Sept. 23, 1972
5. Permanent Pump Installed? Yes xx No_____
   Manufacturer Barnes Type Sub.
   Capacity 15 gpm. Depth of setting _____ ft.
6. Well Top Sealed? Yes xx No_____
7. Pitless Adaptor Installed? Yes xx No_____
8. Well Disinfected? Yes x x No_____
9. Water Sample Submitted? Yes xx No_____

REMARKS:

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address (b) (9) [redacted]
    Driller Paul Barker License No. 92-563
11. Permit No. 16511 Date Sept. 13, 1972
12. Water from Rock Formation 13. County McHenry
    at depth 160 to 181 ft. Sec. 32 ¼
    14. Screen: Diam._____in. Twp. 44N
    Length:_____ft. Slot_____ Rge. 6E
    Elev._____

SHOW LOCATION IN SECTION PLAT
NE NE SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per. ft.	0m	160

16. Size Hole below casing: 5 in.
17. Static level 3 ft. below casing top which is 1 ft above ground level. Pumping level 23 ft. when pumping at 70 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Topsoil -- Clay	0	20
Clay ------Gravel	20	160
Gravel----- Rock	160	181

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE Sept. 23, 19[illegible]

INSTRUCTIONS TO DRILLERS

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 126 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 126 ft.
   c. Drilled XX. Finished in Drift ____. In Rock ____.
   Tubular ____. Gravel Packed XX.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

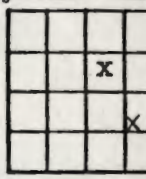
2. Distance to Nearest:
   Building 25 Ft. — Seepage Tile Field 95
   Cess Pool ____ — Sewer (non Cast iron) ____
   Privy ____ — Sewer (Cast iron) ____
   Septic Tank 100 — Barnyard ____
   Leaching Pit ____ — Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes XX No ____
4. Date well completed May 19, 1972
5. Permanent Pump Installed? Yes XX No ____
   Manufacturer Barnes Type Sub.
   Capacity 15 gpm. Depth of setting 80 ft.
6. Well Top Sealed? Yes XX No ____
7. Pitless Adaptor Installed? Yes XX No ____
8. Well Disinfected? Yes XX No ____
9. Water Sample Submitted? Yes XX No ____

REMARKS:

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner (b) (6) [redacted] Well No. 1
    Address (b) (9) [redacted]
    Driller Paul Barker License No. 92-563
11. Permit No NE 14506 Date May 4, 1972
12. Water from Gravel Formation
    at depth 80 to 126 ft.
13. County McHenry
    Sec. 32.2 W
    Twp. 44N
    Rge. 6E
    Elev. ____



14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15 # Per FT.	0	80

SHOW LOCATION IN SECTION PLA
80' N 200' W
Sec SW NE

16. Size Hole below casing: 5 in.
17. Static level 6 ft. below casing top which is 1 above ground level. Pumping level 20 ft. when pumping at 30 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH		THICKNESS	DEPTH OF BOTTOM
Topsoil	Clay	0	30
Clay	Sand	30	80
Sand	Gravel	80	126

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE May 19, 1972

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material _____. Buried Slab: Yes_____No_____
   b. Driven ✓. Drive Pipe Diam. 1¼ in. Depth 24 ft.
   c. Drilled _____. Finished in Drift_____. In Rock_____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 75 Ft. Seepage Tile Field 110
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 90 c. 130 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Is water from this well to be used for human consumption?
   Yes ✓ No_____
4. Date well completed 4-1-74
5. Permanent Pump Installed? Yes ✓ No_____
   Manufacturer STA-RITE Type JET ½ HP
   Capacity 10 gpm. Depth of setting _____ ft.
6. Well Top Sealed? Yes ✓ No_____
7. Pitless Adaptor Installed? Yes_____ No_____
8. Well Disinfected? Yes ✓ No_____
9. Water Sample Submitted? Yes ✓ No_____

REMARKS:

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] (b) [redacted] (b) [redacted] (a) [redacted] Well No. 55
    Address [redacted]
    Driller BURGESS & SON License No. 102-58
11. Permit No. 20682 Date 4-1-74
12. Water from SAND + GRAVE Formation 13. County MCHENRY
    at depth 4 to 24 ft.
14. Screen: Diam._____in.
    Length:_____ft. Slot _____
    Sec. 32-bc
    Twp. 44N
    Rge. 6E
    Elev._____

SHOW LOCATION IN SECTION PLAT
1000'S 1000'W
NE¼ NE SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
1¼	GALV	0	24

16. Size Hole below casing:_____in.
17. Static level 5 ft. below casing top which is 1 ft. above ground level. Pumping level _____ ft. when pumping at 10 gpm for 24 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
TOP SOIL	1	1
YELLOW CALY	3	4
SAND GRAVE	20	24

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wayne T Burgess AB DATE 4-1-74

White Copy – Ill. Dept. of Pu[illegible] Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUIRED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 40 ft.
   Curb material _____. Buried Slab: Yes____ No____
   b. Driven _____. Drive Pipe Diam. ____in. Depth ____ft.
   c. Drilled __x__. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed __x__.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Gravel	0	40

2. Distance to Nearest:
   Building 40 Ft. — Seepage Tile Field _____
   Cess Pool _____ — Sewer (non Cast iron) _____
   Privy _____ — Sewer (Cast iron) _____
   Septic Tank 55 — Barnyard _____
   Leaching Pit _____ — Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed 11/20/85
5. Permanent Pump Installed? Yes X Date 11/20/85 No____
   Manufacturer Red Jacket Type Subm Location in well
   Capacity 10 gpm. Depth of Setting 40 Ft.
6. Well Top Sealed? Yes X No____ Type Williasm Cap
7. Pitless Adapter Installed? Yes X No____
   Manufacturer Williams Model Number B50AC
   How attached to casing? locknut
8. Well Disinfected? Yes X No____
9. Pump and Equipment Disinfected? Yes X No____
10. Pressure Tank Size 80 gal. Type Well X Trol
    Location Basement
11. Water Sample Submitted? Yes____ No__x__

REMARKS:

lab # 24743

Owner isntructed to take sample.

IDPH 4.065
'74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. _____
    Address [redacted]
    Driller Marvin Nice License No. 102 002458
11. Permit No. 121056 Date 10/23/85
12. Water from Gravel Formation 13. County McHenry
    at depth 35 to 40 ft. Sec. 33
    14. Screen: Diam. _____ in. Twp. 44N
    Length: _____ ft. Slot _____ Rge. 6E
    Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Black Steel	0	40
	15 lbs per ft		

SHOW LOCATION IN SECTION PLAT

NW NW NW

16. Size Hole below casing: 5 in.
17. Static level 7 ft. below casing top which is 1 ft. above ground level. Pumping level 17 ft. when pumping at 10 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	3	3
Sand, Gravel & Clay	32	35
Gravel	5	40

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

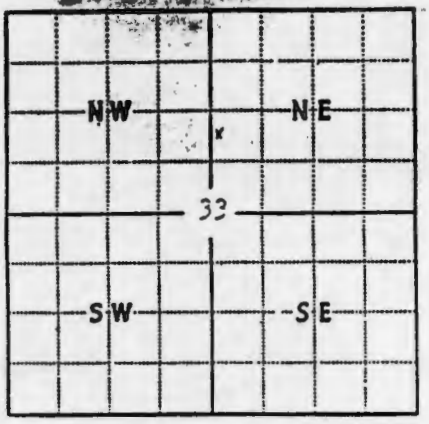
SIGNED [signature] DATE 2/23/87

Form 66-5

STATE OF ILLINOIS
County of McHenry } ss.

WATER WELL PLUGGING AFFIDAVIT

Marvin R. Nice and George Ponto, being first duly sworn, do depose and say the following is a true and correct statement of the details of the plugging of a certain well drilled for water and located as follows:



Locate well accurately on plat of section (Scale one inch—2,000 ft.)

Location in section NW 1/4, SW 1/4, NE 1/4
Section 33 Township 44N Range 8E
County McHenry
Well name and number
Year drilled Unknown
Reason for plugging Fuel Oil in water
Total depth 15' Formation Sand & Gravel
How was depth determined? As reported
As measured X
Diameter of well at land surface 1 1/4 inches
Was well clear of obstructions to bottom before plugging? Yes
Depth of obstruction Nature of obstruction

Drilling permit No. and date, if known
Permit issued to
Kind of drilling tools used Date plugging completed 1/2/82
Property owner (b) (6) Address (b) (6)
Drilling contractor Country Well & Pump, Inc. Address 17207 Coral E. Road, Union, Ill

DETAILS OF PLUGGING

Filled with Cement (Cement or other Materials)	From 0	To 15	feet
Kind of plug	From	To	feet
Filled with	From	To	feet
Kind of plug	From	To	feet
Filled with	From	To	feet
Kind of plug	From	To	feet

CASING RECORD

Diameter (In.)	IN WELL From (Ft.)	IN WELL To (Ft.)	PULLED OUT From (Ft.)	PULLED OUT To (Ft.)	REMARKS
1 1/4	0	15			

Marvin R. Nice
(Signature of person, firm or corporation having custody or control of well.)

Per (b) (6)

Address (b) (6)

Marvin R. Nice President
(Signature and title of party supervising plugging of well.)

Address 17207 Coral E. Road Union, Ill

Subscribed and sworn to before me this 7th day of January A.D. 19 82.

My commission expires June 6, 1984

Notary Public

White Copy – Illinois Department of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION SUBMITTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 45 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled XX. Finished in Drift V. In Rock XX.
   Tubular _____. Gravel Packed _____.
   d. Grout:

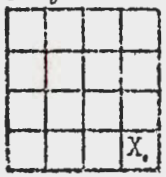
(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 30 Ft. Seepage Tile Field ~~100~~
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 85 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No_____
4. Date well completed March 30 1977
5. Permanent Pump Installed? Yes X Date 3/30/77 No_____
   Manufacturer Touvell Type ½ sub Location in well
   Capacity 30 gpm. Depth of Setting 21 Ft.
6. Well Top Sealed? Yes X No_____ Type Wells
7. Pitless Adapter Installed? Yes XX No_____
   Manufacturer Wells Model Number _____
   How attached to casing? , U-Bolt
8. Well Disinfected? Yes XX No_____
9. Pump and Equipment Disinfected? Yes X No_____
10. Pressure Tank Size 40 gal. Type Well-X-Trol
    Location In Basement
11. Water Sample Submitted? Yes Y No_____

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner (b) (6) [redacted]
    Driller Paul Barker License No. 92-563
11. Permit No. 58162 Date March 24 1977
12. Water from Gravel (Formation)
    at depth 10 to 45 ft.
13. County McHenry
    Sec. 33 1/a
    Twp. 44N
    Rge. 6E
    Elev. _____
14. Screen: Diam. _____ in.
    Length: _____ ft. Slot _____



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per Ft.	0	45

SHOW LOCATION IN SECTION PLAT
80'N. 60'E, SWK, SE SE SE

16. Size Hole below casing: 5 in.
17. Static level 8 ft. below casing top which is 1 ft. above ground level. Pumping level ~~XX~~ 15 ft. when pumping at 20 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sand	0	10
, Gravel	10	45

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE Apr 1 77

IDPH 4.065
1/74 – KNS-1

Copy – [illegible] Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth 51 ft.
   Curb material _____. Buried Slab: Yes_____No_____
   b. Driven _____. Drive Pipe Diam. _____in. Depth _____ft.
   c. Drilled X. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed X.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Gravel	0	51

2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 50 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No _____
4. Date well completed 12/20/73
5. Permanent Pump Installed? Yes X Date 12/20/73 No _____
   Manufacturer Red Jacket Type Sub Location in well
   Capacity 10 gpm. Depth of Setting 40 Ft.
6. Well Top Sealed? Yes X No _____ Type Williams Cap
7. Pitless Adapter Installed? Yes _____ No X
   Manufacturer _____ Model Number _____
   How attached to casing? _____
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes X No _____
10. Pressure Tank Size 40 gal. Type Galvanized Steel
    Location Basement
11. Water Sample Submitted? Yes _____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner George [redacted] (b) [redacted] Well No. [redacted]
    Address [redacted]
    Driller Irvin Mac License No. [redacted]
11. Permit No. 105845 Date 12/19/73
12. Water from Gravel Formation 13. County Tolleny
    at depth 43 to 51 ft. Sec. 33.4f
14. Screen: Diam. _____in. Twp. 44N
    Length: _____ft. Slot _____ Rge. 6E
    Elev. _____

SHOW LOCATION IN SECTION PLAT
NW SW NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Black Steel	0	51

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	2	2
Sand & Gravel	43	45
Large Gravel	6	51

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 1/24/74

IDPH 4.065
1/74 – KNB-1
(59571—12½M Sets—6-74)

City Union County McHenry D

Section 34 1E Twp. No. 44N Range 6E

Location (in feet from section corner) 3130' ~~S~~ N and 80' W of SE/c

Owner D. Hill Nursery Co. Authority

Contractor Layne Western Co., Inc. Address 721 W. Illinois Ave Aurora, Illinois

Date drilled 6/8/72 Elev. above sea level top of well

Depth ~~90~~ 90.5

Log 0-1½ - Topsoil, 1½ - 51½ Sand & Gravel, 51½-56 Sandy Clay, 56-90 Sand & Gravel

Were drill cuttings saved Yes Where filed State Geological Survey

Size hole 38" If reduced, where and how much

Casing record 16" Casing 0-70', 16" Shutter Screen No. 6 (80 Shot) 70'-90'

Distance to water when not pumping 10' (Measured) Distance to water is 22 feet after pumping at 1250 G. P. M. for 8 hours.

Reference point for above measurements Casing Top - 1' above Ground level

Type of pump Submersible Distance to Bowls cylinder [redacted]' 46'

Length of Bowls cylinder 8' Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor 100 H.P. Rating of pump in G. P. M. 1000

Can following be measured: (1) Static water level Yes

(2) Pumping level Yes (3) Discharge No

(4) Influence on other wells None adjacent

Temperature of water 54° Was water sample collected Yes

Date Effect of water on motors, hot water coils, etc.

Date of Analysis Analysis No.

Recorder

2607-22617 12 Date

Received 6-20-72

White Copy
Ill. Dept. Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 6 in. Depth 90 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled X. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed X.
   d. Grout:

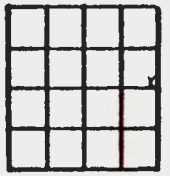
(KIND)	FROM (Ft.)	TO (Ft.)
Gravel	0	90

2. Distance to Nearest:
   Building 20 Ft. — Seepage Tile Field _____
   Cess Pool _____ — Sewer (non Cast iron) _____
   Privy _____ — Sewer (Cast iron) _____
   Septic Tank 75 — Barnyard _____
   Leaching Pit _____ — Manure Pile _____
3. Well furnishes water for human consumption? Yes____ No X
4. Date well completed 10/10/79
5. Permanent Pump Installed? Yes___ Date _____ No X
   Manufacturer _____ Type _____ Location _____
   Capacity_____ gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes X No____ Type Williams Cap
7. Pitless Adapter Installed? Yes_____ No_____
   Manufacturer Williams Model Number B60AC
   How attached to casing? Locknut
8. Well Disinfected? Yes X No _____
9. Pump and Equipment Disinfected? Yes X No _____
10. Pressure Tank Size_____ gal. Type None
    Location _____
11. Water Sample Submitted? Yes_____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Hill Nursery Co. Well No. _____
    Address Rt. 176 & Franklinville Rd Union, Ill
    Driller Marvin Hice License No. 102 002459
11. Permit No. 20181 Date 10/9/79
12. Water from Gravel Formation 13. County McHenry
    at depth 4 to 90 ft.
14. Screen: Diam. 6 in.
    Length: 16 ft. Slot 16
    Sec. 34.1
    Twp. 44N
    Rge. 8E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
SE SE NE
(Quarter)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6"	Black Steel	0	76
	19.45 lb per ft.		

16. Size Hole below casing: 6 in.
17. Static level 12 ft. below casing top which is 1 ft. above ground level. Pumping level 15 ft. when pumping at 10 gpm for 1/2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	3	3
Sand & Gravel	87	90

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED _____ DATE 12/18/79

IDPH 4.065
1/7 KNB-1
(5957 2M Sets--6-74) 5

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 51 ft.
   Curb material _____. Buried Slab: Yes____ No____
   b. Driven _____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled x. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes x No____
4. Date well completed 4/17/78
5. Permanent Pump Installed? Yes___ Date _____ No No.
   Manufacturer _____ Type _____ Location _____
   Capacity _____ gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes x No____ Type watertite
7. Pitless Adapter Installed? Yes x No____
   Manufacturer Baker-monitor Model Number snappy
   How attached to casing? compression
8. Well Disinfected? Yes x No____
9. Pump and Equipment Disinfected? Yes x No____
10. Pressure Tank Size____ gal. Type Con-Aire
    Location _____
11. Water Sample Submitted? Yes____ No x

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner D. Hill Nursury Well No. _____
    Address Rte 31 & 72 W. Dunddee, Ill.
    Driller William M. Boetsch License No. 92-436
11. Permit No. 73323 Date 4-21-78
12. Water from Gravel (Formation) 13. County McHenry
    at depth 10 to 51 ft.
    Sec. 34
    Twp. 44N
    Rge. 6E
    Elev. _____
14. Screen: Diam. 5 in.
    Length: 4 ft. Slot 25
    w/bailer hook
15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	PVC	1	47

SHOW LOCATION IN SECTION PLAT
200'N, 100'E, S½, SE NE NE (E. of Nursery)

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 30 ft. when pumping at 25 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top soil	10	10
Gravel	41	51

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm Boetsch DATE 5/9/78

I 4.065
1/74 – KNB-1

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well #6
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 71 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. _____ in. Depth _____ ft.
   c. Drilled x. Finished in Drift _____. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building _____ Ft. Seepage Tile Field _____
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank _____ Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes x No____
4. Date well completed 4/19/78
5. Permanent Pump Installed? Yes ~~x~~ Date _____ No No
   Manufacturer ~~Aermotor~~ Type ~~sub~~ Location _____
   Capacity_____ gpm. Depth of Setting _____ Ft.
6. Well Top Sealed? Yes x No____ Type watertite
7. Pitless Adapter Installed? Yes x No_____
   Manufacturer Baker-monitor Model Number snappy
   How attached to casing? compression
8. Well Disinfected? Yes x No _____
9. Pump and Equipment Disinfected? Yes x No _____
10. Pressure Tank Size_____ gal. Type Con-Aire
    Location _____
11. Water Sample Submitted? Yes ~~x~~ No x

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner D. Hill Nursury Well No. _____
    Address Rte 31 & 72 W. Dundee, Ill.
    Driller William M. Boetsch License No. 92-436
11. Permit No. 73324 Date _____
12. Water from Gravel Formation 13. County McHenry
    at depth 10 to 71 ft. Sec. 34 NW
    14. Screen: Diam. 5 in. Twp. 44N
    Length: 11 ft. Slot 25 Rge. 6E
    Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6 #	PVC	0	60

SHOW LOCATION IN SECTION PLAT
215'W, 100'E, S½, SE of SE (Irrigation)

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 30 ft. when pumping at 100 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top soil	10	10
Gravel	61	71

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm Boetsch DATE 5/9/78

II 4.065
1/ KNB-1

DRILLER'S LOG
WELL NO. 1

Formation	From	To
Black sandy topsoil	0	1 1/2
Brown silty clayey sand	1 1/2	3 1/2
Fine to medium brown sand and gravel	3 1/2	23
Fine to coarse gray sand	23	33
Fine gray sand	33	39
Fine gray sand to coarse gravel	39	51 1/2
Brown sandy clay	51 1/2	56
Fine gray sand to coarse gravel	56	71
Fine gray sand to coarse gravel boulders	71	90 1/2
Light gray gravelly clay	90 1/2	93

BOOK 620 PAGE 180

Document No. 365703 filed for record in Recorder's office of McHenry County, Illinois,

February 9 A. D. 1960 at 1:30 o'clock P.M. and duly recorded in Book 620 of Records

on page 180

Recorder of Deeds

THE GRANTOR, [redacted] individually and as husband and wife,

of the Village of Union in the County of McHenry and State of Illinois for and in consideration of Ten Dollars and other good and valuable consideration ~~DOLLARS~~ in hand paid, CONVEY and WARRANT to Techalloy Company, Inc.

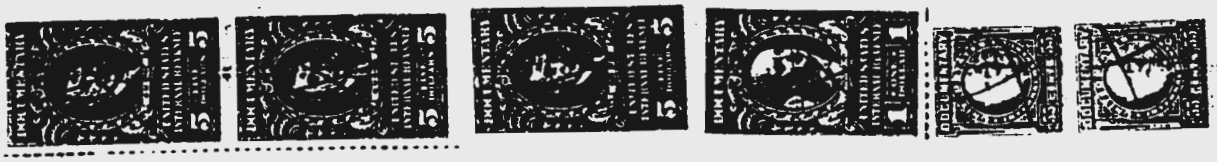
of the Rahns County of

and State of Pennsylvania the following described Real Estate:-

The East Half of Government Lot 1 of the Northeast Quarter of Section 4, Township 43 North, Range 6 East of the Third Principal Meridian, (excepting therefrom the West 181.5 feet of the South 240 feet thereof,) - Containing 43 Acres more or less.

Subject to the 1959 taxes and easement heretofore granted under date of January 20, 1958 unto the Protective Papers, Inc. an Illinois Corporation by First Party, permitting said Corporation to lay sewer and drain tile across said premises and the right to enter upon said premises for the purpose of cleaning and maintaining same.

Also subject to any other easements that there may be of record.



situated in the County of McHenry, in the State of Illinois, hereby releasing and waiving all rights under and by virtue of the Homestead Exemption Laws of the State of Illinois.

Dated this 13th day of January A. D., 1960.

Clarence H. Ocock (Seal)

(Seal)

Mercedes J. Ocock (Seal)

(Seal)

STATE OF ILLINOIS, McHenry County, ss.

I, the undersigned, a Notary Public in and for said County and State aforesaid, DO HEREBY CERTIFY, that Clarence H. Ocock and Mercedes J. Ocock, individually and as husband and wife personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act, for the uses and purposes therein set forth, including the releases and waiver of the right of homestead.

Given under my hand and Notarial Seal, this 13th day of January A. D. 1960.

Notary Public

REFERENCE NUMBER 4

819914

Certificate [illegible]

819914

81 JUL 16 A10 : 47

RECORDER

STATE OF ILLINOIS

OFFICE OF

THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

Whereas, APPLICATION FOR CERTIFICATE OF AUTHORITY TO TRANSACT BUSINESS IN THIS STATE, duly signed and verified of TECHALLOY COMPANY, INC. incorporated under the laws of the State of PENNSYLVANIA has been filed in the Office of the Secretary of State as provided by The "Business Corporation Act" of Illinois, in force July 13, A.D. 1933.

Now Therefore, I, JIM EDGAR, *Secretary of State of the State of Illinois by virtue of the powers vested in me by law, do hereby issue this certificate and attach thereto a copy of the Application of the aforesaid corporation.*

In Testimony Whereof, *I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois*

Done at the City of Springfield this 1st

day of July *A.D. 19* 81 *and*

of the Independence of the United States

the two hundred and 5th

Jim Edgar.

SECRETARY OF STATE

81-10- 417

819914

NEW APPLICATION
Filing Fee $75.00 plus license fee and franchise tax
AMENDED APPLICATION
Filing Fee $25.00
REINSTATED APPLICATION
Filing Fee $100.00

Form BCA-106 or 114
(FILE IN DUPLICATE)
(each copy must have original signatures)

Date Paid
License Fee $
Franchise Tax $
Filing Fee $
Penalty $
Clerk

APPLICATION FOR { AMENDED / ORIGINAL CERTIFICATE OF AUTHORITY OF FOREIGN CORPORATION / REINSTATED

To: Secretary of State
Springfield, Illinois

TECHALLOY COMPANY, INC. a corporation organized and existing under and by virtue of the laws of the State of Pennsylvania hereby makes application for a original certificate of authority to transact business in the State of Illinois and submits the following application pursuant to "The Business Corporation Act", of Illinois:

(Use only when applicable if the name of the corporation is not available for use in Illinois)
The name which the corporation elects to assume for use in this State, pursuant to Section 104a, is _____ *(Note 4)*

First—Date of incorporation December 15, 1953 Duration ~~to date~~ perp.

Second—The location of the principal office as designated in the charter is Trappe Road, Rahns, PA.

The locations of its principal places of business are: Trappe Road, Rahns, PA.

Third—The name and address of the initial registered agent and registered office located in Illinois are: *(Note 5)*

Registered agent Paul Lauletta

Registered office (Techalloy Illinois, Inc.) Jefferson & Olson Streets

City, Zip code, County Union, 60180, McHenry County

Fourth—The corporation is transacting business and qualified under the foreign corporation laws of the following state and countries other than Illinois:

Fifth—The names of its officers and directors and their addresses are as follows:

President	David M. Schmid	Trappe Road	Rahns, PA
Secretary	Paul Robinson	Trappe Road	Rahns, PA
Director	David M. Schmid	Trappe Road	Rahns, PA
Director	Paul Robinson	Trappe Road	Rahns, PA
Director	John Ames Ballard	1100 PNB Bldg.	Philadelphia, PA
Director			
Director			
Director			

81-10- 418

819914

Sixth—The purpose or purposes for which it was organized which it proposes to pursue in the transaction of business in this State are: (A general, all inclusive purpose is not permitted. Please make no reference to laws of states other than Illinois.)

To develop, manufacture, produce, buy, sell, trade and deal in wire, rod and strip steel, alloys and metal products of all kinds.

819911

Seventh—The number of shares which it has authority to issue, itemized by classes, par value of shares, shares without par value, and series if any, within a class is

Class	Series (if any)	Number of Shares	Par value per share or statement that shares are without par value
Common shares		20,000	$10. per share

Eighth—The number of its issued shares, itemized by classes, par value of shares, shares without par value, and series, if any, within a class is: NOTE: ("Issued" shares, include (1) "outstanding" shares, and (2) all shares which have been issued and repurchased or redeemed by the corporation, but not cancelled of record in the home State.)

Class	Series (if any)	Number of Shares	Par value per share or statement that shares are without par value
Common shares		20,000	$10. per share

Ninth—The amount of stated capital and the amount of paid in surplus of the corporation as defined by "The Business Corporation Act" of Illinois, is:

	Stated Capital $ 200,000
(Note: If no Paid in Surplus, insert "None")	Paid in Surplus $ 442,843
	Total $ 642,843

The basis for computation of franchise taxes payable by foreign corporations is set forth in Section 139 of the Business Corporation Act.

Omit Articles Tenth through Fourteenth if an amended or reinstated application

*Tenth—Give an estimate of the total value of all the property of the corporation for the following year $ 39,000,000

Eleventh—Give an estimate of the total value of all the property of the corporation for the following year that will be located in Illinois $ 9,570,000

Twelfth—State the estimated total business of the corporation to be transacted by it everywhere for the following year $ 73,127,954

Thirteenth—State the estimated annual business of the corporation to be transacted by it at or from places of business in the State of Illinois $ 14,000,000

Fourteenth—
INTERROGATORIES:

(a) Is the corporation actually transacting business at the present time in the State where it was organized? Yes.

(b) From what office will the affairs of the corporation be managed? Union, Illinois and Trappe Road, Rahns, PA.

(c) To what office or offices will all contracts with the corporation be forwarded for final acceptance? Union, Illinois or Trappe Rd., Rahns, PA.

(d) At what office or offices will the directors and stockholders meeting be held? Trappe Rd., Rahns, PA.

(e) The number of shares of all classes owned by residents of Illinois is: None

(f) The number of shares of all classes owned by non-residents of Illinois is: 20,000

(g) Is the corporation transacting business in this State at this time? No

(h) If your answer is in the affirmative, state the exact date on which it commenced to transact business in Illinois:

*PROPERTY as used in this application shall apply to all property of the corporation, real, personal, tangible, intangible, or mixed without qualifications.

81-10-420

819914

IN WITNESS WHEREOF, the undersigned corporation has caused this report to be executed in its name by its _____ President attested by its _____ Secretary, this 27th day of May, A.D. 1981.

Techalloy Company, Inc.
(Exact Corporate Title)

By David M Schmid
President or Vice President

Place (CORPORATE SEAL) Here

Attest. R. L. Wilson, Jr.
Secretary or Assistant Secretary

As authorized officers, we declare that this document has been examined by us and is, to the best of our knowledge and belief, true, correct and complete.

NOTE 1. This form may be used in applying for either an original, an amended, or a reinstated certificate of authority. APPLICATIONS MUST BE ACCOMPANIED BY ONE COPY OF THE ARTICLES OF INCORPORATION AND ALL AMENDMENTS DULY AUTHENTICATED BY THE PROPER OFFICER OF THE STATE OR COUNTRY WHEREIN IT IS INCORPORATED.

NOTE 2. Only a certified copy of the articles of incorporation and all amendments thereon is acceptable, a photocopy will not be adequate. The application is not complete until such copy is furnished.

NOTE 3. This form may also be used for an amended application where the name, duration, or purpose has been changed. It will also be necessary to attach a certified copy of any amendment that changes the name, duration, or purpose. For a name change, please list the New name in Question 1 and, in parentheses, the former name.

NOTE 4. This statement is applicable only when the corporation must adopt an assumed name in order for its application to be considered. Do not use for an ordinary assumed name application; use separate form BCA 9a/104a. An assumed name shall contain separate and apart from any other word or abbreviation in such name, the word "corporation", "company", "incorporated", or "limited" or an abbreviation of one of such words. No corporation shall adopt more than one assume . name or do business thereunder and such name shall not be changed more often than annually. The corporation must enclose additional fees totaling $25 for the assumed name and thereafter pay the prescribed annual assumed name fee.

NOTE 5. The registered office must be in Illinois and must be a street or road address, not a post office box number. A corporation may not act as its own registered agent but must appoint an individual or a corporation which has as its express purpose to act as registered agent for other corporations.

Form BCA-105 or 114

File

APPLICATION FOR CERTIFICATE OF AUTHORITY OF FOREIGN CORPORATION

SECRETARY OF STATE
CORPORATION DEPARTMENT
SPRINGFIELD, ILLINOIS 62756
TELEPHONE (217) 782-7880

FILED
JUL - 1 1981
JIM EDGAR
Secretary of State

8= Drinker, Biddle & Reath
1100 Philadelphia Nat'l Bk. Bldg.
Philadelphia, Penn. 19107

81-10- 421

GEORGE E. COLE®
LEGAL FORMS

No. 804
September, 1975

839789

WARRANTY DEED

Statutory (ILLINOIS)

INCORPORATED

839789

STATE OF ILL.
McHENRY COUNTY SS.
FILED FOR RECORD August 16
19 82 at 11:55 o'clock
William H. Russell
Recorder

(The Above Space For Recorder's Use Only)

Exempt under provisions of paragraph (e) Section 4 of the Real Estate Transfer Act.
August 12, 1982 Fred Scheibe
Fred Scheibe, Buyer's Rep.

THE GRANTOR TECHALLOY, ILLINOIS, INC. a corporation created and existing under and by virtue of the laws of the State of Delaware and duly authorized to transact business in the State of Illinois, for and in consideration of the sum of One ($1.00) DOLLARS, in hand paid, and pursuant to authority given by the Board of Directors of said corporation CONVEYS and WARRANTS to TECHALLOY COMPANY, INC., a Pennsylvania Corporation having an address at (NAME AND ADDRESS OF GRANTEE) Trappe Road, Rahns, Pennsylvania 19426 the following described Real Estate situated in the County of McHenry in the State of Illinois, to wit:

The East Half of Government Lot 1 of the Northeast Quarter of Section 4, Township 43 North, Range 6 East of the Third Principal Meridian, (excepting therefrom the West 181.5 feet of the South 240 feet thereof,) - containing 43 acres more or less.

Subject to the 1959 taxes and easements heretofore granted under date of January 20, 1958 unto the Protective Papers, Inc., an Illinois Corporation by First Party, permitting said Corporation to lay sewer and drain tile across said premises and the right to enter upon said premises for the purpose of cleaning and maintaining same.

Also subject to any other easements that there may be of record.

BEING the same premises heretofore conveyed by said Techalloy Company, Inc., to said Techalloy, Illinois, Inc., by Warranty Deed dated November 12,1965, and filed for record as Document No. 451352 in the Recorder's Office of McHenry County, Illinois.

SEE RIDER ATTACHED HERETO AND MADE A PART HEREOF.

FOR REVENUE STAMPS HERE

839789

RIDER ATTACHED TO AND MADE
A PART OF DEED BETWEEN TECHALLOY,
ILLINOIS, INC., AND TECHALLOY COMPANY, INC.
DATED JULY 19 , 1982.

THE GRANTEE HEREIN, being the sole shareholder of the Said TECHALLOY, ILLINOIS, INC., a Delaware Corporation, Grantor herein, and holding all of the issued and outstanding shares of the Grantor, on July 1, 1981 adopted a resolution calling for a Plan of Merger of the Grantor, pursuant to Article IX of the Pennsylvania Business Corporation Law and Subchapter IX of the Delaware General Corporation Law and the cancellation of all of the issued and outstanding shares of the Grantor.

839789

In Witness Whereof, said Grantor has caused its corporate seal to be hereto affixed and has caused its name to be signed to these presents by its _____ President and attested by its _____ Secretary, this 19th day of July, 19 82.

TECHALLOY, ILLINOIS, INC.
(NAME OF CORPORATION)

IMPRESS CORPORATE SEAL HERE

By David M. Schmid
PRESIDENT

ATTEST Paul Robinson
SECRETARY

Pennsylvania

State of Illinois/ County of Montgomery ss. I, the undersigned, a Notary Public, in and for the County and State aforesaid, DO HEREBY CERTIFY, that David M. Schmid personally known to me to be the _____ President of the Grantor, Techalloy, Illinois, Inc., a corporation, and Paul Robinson, personally known to me to be the _____ Secretary of said corporation, and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that as such _____ President and _____ Secretary, they signed and delivered the said instrument as _____ President and _____ Secretary of said corporation, and caused the corporate seal of said corporation to be affixed thereto, pursuant to authority, given by the Board of ~~Directors~~ of said corporation as their free and voluntary act, and as the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth.

IMPRESS NOTARIAL SEAL HERE

Given under my hand and official seal, this 19th day of July 1982

Commission expires October 19 1982

Christian E. Oosterle, Jr.
(NOTARY PUBLIC) Christian E. Oosterle, Jr., Notary Public
Perkiomen Township, Montgomery County

This instrument was prepared by Frederick A. Scheibe, Esq., 1100 PNB Building, Phila., PA
(NAME AND ADDRESS) Section of No. 19107

$5.00

MAIL TO: Frederick A. Scheibe, Esq. (Name)
1100 PNB Building Broad & Chest Street (Address)
Philadelphia, PA 19107 (City, State and Zip)

OR RECORDER'S OFFICE BOX NO. _____

ADDRESS OF PROPERTY
Jefferson and Olson Roads
Union Village, Ill. 60180

THE ABOVE ADDRESS IS FOR STATISTICAL PURPOSES ONLY AND IS NOT A PART OF THIS DEED.

SEND SUBSEQUENT TAX BILLS TO:
Techalloy Company, Inc. (Name)
Trappe Road, Rahns, PA 19426 (Address)

DOCUMENT NUMBER

8L-B-669

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMORANDUM

DATE: March 11, 1991

TO: Division File **REFERENCE NUMBER 5**

FROM: Hank Konzelmann

SUBJECT: 1110900003 - McHenry Co.
Union/Techalloy Company
Superfund/Tech. Repts.

On March 6, 1991, a site recon of the Techalloy facility in Union was conducted. Prior to the recon, visits at the ASCS, SCS, and county tax assessors offices in Woodstock were made in order to collect information about the site.

The following was determined through a title search:
The following are divisions of Techalloy based in Union:
Techalloy CA (California), Inc.
Techalloy Maryland, Inc.
Techalloy Co. Inc, Atlanta Plant
Techalloy Perris
Techalloy Strip Inc.
Techalloy TX (Texas), Inc.
Techalloy western Inc.

The following company names are listed at the Union address:
Techalloy Company, Inc
Techalloy Illinois, Inc
Techalloy MD, Inc.

The following deed transactions have taken place:

January 13, 1960 - warranty deed - (b) (6) [redacted] [redacted] sold portion of East 1/2 of Government Lot 1 NE 1/4 section 4, T43N, R6E to Techalloy Company, Inc.

July 5, 1981 - Application of Certification to conduct business - State of Illinois

July 19, 1982 - warranty deed - Techalloy Illinois, Inc. sold the property to Techalloy Company, Inc. (not a typo)

A site drive-by was then conducted and photographs were taken. It was noted that Evergreen Park Elementary School exists adjacent to the property in a residential area to the south.
Old monitoring wells were also observed next to a property located at 7506 Madison, and another was seen at the end of Madison street.

After attempts to examine and photograph a long pit on the west side of the property were unsuccessful, I contacted Dick

Piwonka and Rick Perlick (General Plant Manager), who allowed me access to the pit area. The pit was estimated to be 20 feet across, four feet deep, and 225 feet long. I was told by the Techalloy representative that they would communicate any actual dimensions that they might have.

I left the site and area at 5:30 pm.

1110900003 - McHenry
Union / Techalloy
Superfund / Tech Repts

Techalloy
Company, Inc.

84 Business Park Drive, Armonk, NY 10504 Phone: 914-273-4500
FAX: 914-273-4508

May 24, 1990

REFERENCE NUMBER 6

Mr. Henry J. Konzelmann
Project Manager
Remedial Project Mgm't Section
Div. of Land Pollution Control
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Subject: Analytical test results from monitoring wells at Techalloy Company, Inc. - Union, Illinois plant.

Dear Mr. Konzelmann:

It was a pleasure meeting you and Dr. Black on Tuesday, May 22, concerning the above subject. Enclosed for your review is the report submitted to Techalloy by Weston Consultants outlining the method of testing and the subject test results.

If you have any questions, please feel free to contact Mr. John W. Thorsen at Weston or myself at the Armonk, N.Y. office. Again, thank you for your cooperation in this matter and we look forward to working with you in resolving this problem on a prompt and timely basis.

Very truly yours,

Henry Lopes
Vice President
Technical Development

HL:ic
Enclosure

cc: Dr. J. Stanley Black - Illinois E.P.A.
Mr. Philippe Maitrepierre - Techalloy, Armonk, NY
Mr. Dick Piwonka - Techalloy, Union plant
Mr. John W. Thorsen - Weston Consultants

WESTON
MANAGERS DESIGNERS/CONSULTANTS
100 CORPORATE NORTH, SUITE 101
ROUTE 22 AND LAKESIDE DRIVE
BANNOCKBURN, ILLINOIS 60015
(312) 295-6020
708

16 May 1990

Mr. Gunnar Gillberg
Techalloy Industries
84 Business Park Drive
Armonk, New York 10504

Work Order No.: 1989-06-02

Subject: Analytical Results from Property Boundary Monitoring Wells
Techalloy Industries, Union, Illinois

Dear Mr. Gillberg:

This letter documents the installation and sampling by Roy F. Weston, Inc. (WESTON) of two groundwater monitoring wells and four sand points along the western and northern boundaries of the Techalloy property. The purpose of the wells and sand points was to determine if contaminants were present at the property boundary and to determine the potential for off-site migration of contaminants. Installation and sampling of the two monitoring wells was outlined in a proposal to Techalloy dated 6 March 1990. Techalloy approved the proposal and subsequently requested that the four sand points be added to the scope of work.

All drilling activities were performed under the supervision of WESTON by Layne-Western, Inc. of Aurora, Illinois, during the period 26 March through 4 April. The shallow well and the four sand points were installed near the top of the shallow sand aquifer at depths of 37.5 feet and 25 feet, respectively. The deep well was installed at the base of the aquifer immediately above a clay confining layer at a depth of 90 feet. The well boreholes were advanced using 4.25-inch inner diameter hollow stem augers and the wells were constructed as the augers were withdrawn. The monitoring wells were constructed of 2-inch diameter stainless steel casing and screen (10-foot screen length), while the sand points were constructed of 2-inch diameter galvanized steel casing and stainless steel screen (3-foot screen length). Following installation, the wells and sand points were developed by removing water with the nitrogen-lift method. A boring log for the deep well (MW-5D) is included with this report as Attachment A.

The new monitoring wells and sand points were surveyed for groundwater elevations on 16 April 1990. The groundwater elevations indicate that groundwater is moving in a northwesterly

direction in response to a hydraulic gradient of 0.0015 feet/foot (Figure 1).

Groundwater samples were collected from the six newly installed monitoring wells and sand points and one Phase I well (MW-2) on 5 April 1990. All samples were analyzed for metals and volatile organic compounds (VOCs) by Gulf Coast Laboratories of University Park, Illinois. The sample results (Tables 1 and 2) indicate that VOCs are present in groundwater at all of the well locations sampled. The compounds 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), tetrachloroethene (PCE), and 1,1-dichloroethene (1,1-DCE) are the VOCs present at the highest levels. Well numbers MW-7, MW-8, and MW-5 represent the locations where VOCs were detected at the highest concentrations (up to 15,000 parts per billion for individual compounds). The levels of TCE and 1,1,1-TCA detected in samples from wells MW-2, MW-5, MW-5D, MW-7, and MW-8 exceed -- generally by one or more orders of magnitude -- the existing drinking water standards established by the United States Environmental Protection Agency (U.S. EPA) under the Safe Drinking Water Act (SDWA). The level of PCE detected in the samples from MW-2, MW-5, MW-6, MW-7, and MW-8 exceed the proposed U.S. EPA standard for that compound. Metals analyses detected arsenic and lead at levels below existing U.S. EPA drinking water standards in the sample from MW-3. There were no other metals detections in the other groundwater samples analyzed. The laboratory report is provided as Attachment B to this letter.

The results discussed above indicate that groundwater along the northwestern property boundary is contaminated with VOCs at levels above drinking water standards, and that contaminants are migrating off site in a northwesterly direction.

If you have any questions regarding the contents of this letter, please call us at (708) 295-6020.

Very truly yours,

ROY F. WESTON, INC.

Carlos J. Serna, P.G.
Section Manager

John W. Thorsen, P.E.
Vice President

CJS:JWT:amp

H:\WO\W1500\0088.LTR

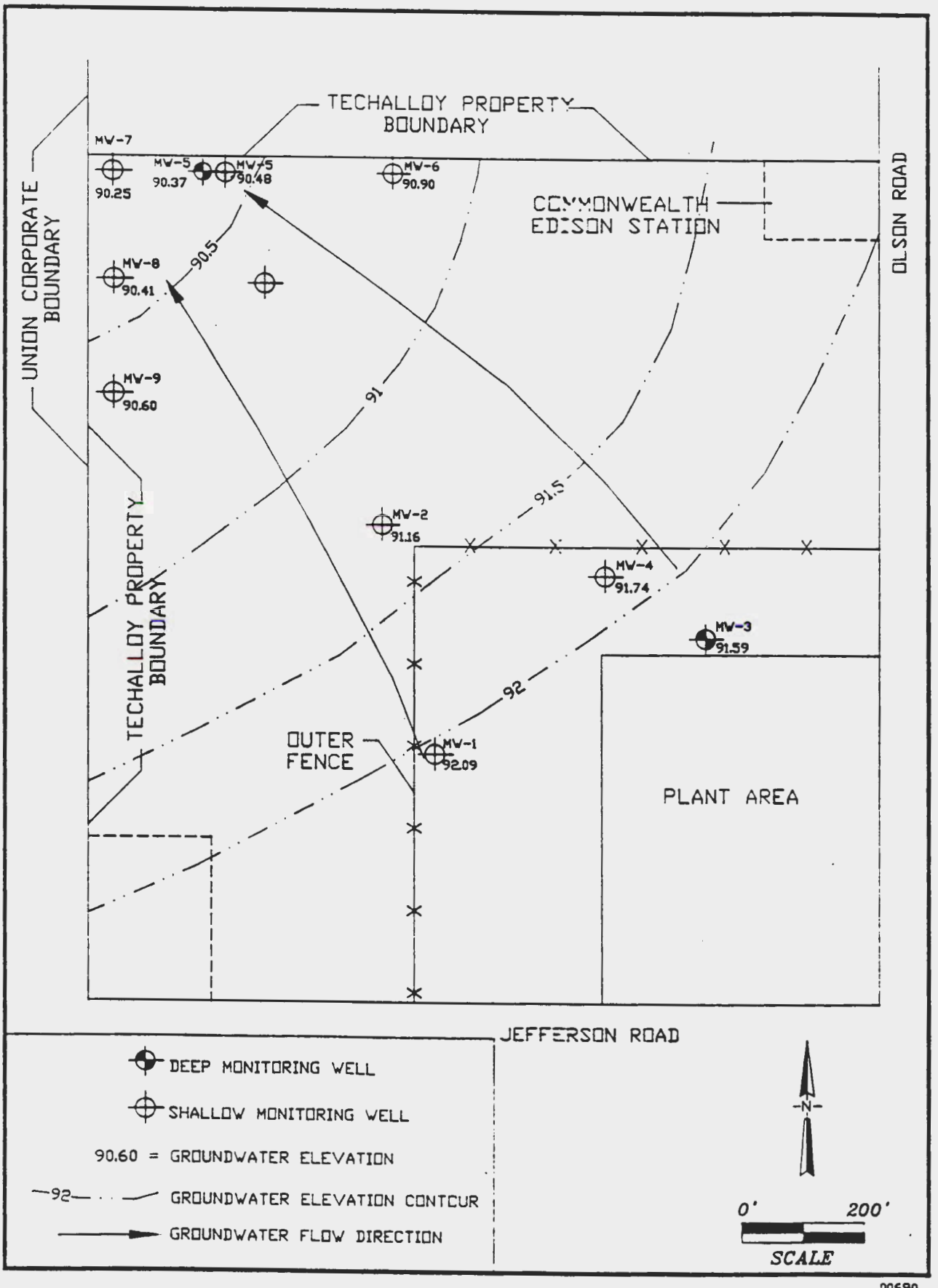


FIGURE 1
GROUNDWATER ELEVATION CONTOUR MAP
TECHALLOY – UNION, ILLINOIS

TABLE 1
VOLATILE ORGANIC COMPOUNDS DETECTED
TECHALLOY, UNION, IL

WELL NUMBER	MW-5	MW-5D	MW-6	MW-6	MW-7	MW-8	MW-9	MW-2	FIELD BLANK	MCL
SAMPLE ID	RFW-1	RFW-2	RFW-3	RFW-3 Dup	RFW-4	RFW-5	RFW-6	RFW-7	EB-2	--
DATE COLLECTED	4/5/90	4/5/90	4/5/90	4/5/90	4/5/90	4/5/90	4/5/90	4/5/90	4/5/90	--
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Methylene Chloride	5	4 J	5	5	24	5	BDL	BDL	BDL	NA
Acetone	29	13	31	BDL	44	BDL	25	26	35	NA
1,1-Dichloroethene	18	5	BDL	BDL	720	54	BDL	100	BDL	7
1,1-Dichloroethane	4 J	6	BDL	BDL	290	110	BDL	86	BDL	NA
1,2-Dichloroethene(total)	7	2 J	BDL	BDL	77	18	BDL	30	BDL	NA
Chloroform	BDL	BDL	BDL	BDL	4 J	BDL	BDL	BDL	BDL	NA
1,2-Dichloroethane	BDL	BDL	BDL	BDL	11	BDL	BDL	BDL	BDL	5
1,1,1-Trichloroethane	1100	300	14	12	15000	1500	18	3000	7	200
Trichloroethene	27	300	BDL	BDL	520	130	BDL	99	BDL	5
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	35	BDL	BDL	6	BDL	---
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
4-Methyl-2-Pentanone	BDL	BDL	BDL	36	BDL	BDL	BDL	16	BDL	NA
Tetrachloroethene	450	BDL	52	48	570	530	3 J	340	BDL	5

BDL - Not Detected
J - Estimated value below method detection limit.
MCL - Maximum Contaminant Level
NA - Not Avalible

TABLE 2
INORGANICS DETECTED
TECHALLOY, UNION, IL

WELL NUMBER	MW-6	MW-6
SAMPLE ID	RFW-3	RFW-3 Dup
DATE COLLECTED	4/5/90	4/5/90
UNITS	mg/L	mg/L
Arsenic, Soluble	0.0094	0.0046
Lead, Soluble	0.018	0.0070

ATTACHMENT A

BORING LOG

...IC DRILL LOG

PROJECT NAME AND LOCATION	PAGE NO.	HOLE NO.
Techalloy, Union, IL	1 of 3	MW-5D

START	FINISH	DRILLER	DRILL METHOD	BOREHOLE DIAMETER	WELL DIAMETER	TOTAL DEPTH
3/27/90	3/29/90	Layne-West.	4.25 I.D. HSA	8"	2" SST	90.00'

LOGGER	TOP of CASING ELEV.	GROUND ELEVATION	DEPTH/ELEVATION GROUNDWATER - DATE MEASURED
W.L. Niemann			6.25'/'

Deep well at downgradient (North) property line.

SAMPLE NO.	SAMPLE TYPE	RECOVERY "	SAMPLE BLOWS*	ELEV	DEPTH	CLASS-IFICATION	SAMPLE INTERVAL	DESCRIPTION	NOTES
01	SS	14	4 6 8		1-8	sm sp		SAND: very fine to medium, poorly sorted; some Silt; little fine gravel; medium dense; brown; moist.	
02	SS	18	10 11 10		9-13	sm sp sw		SAND & GRAVEL: medium to coarse Sand, poorly sorted; fine to medium Gravel; medium dense; brown; wet.	
03	SS	18	10 11 11		14-18	sw		As above, fine to coarse Sand.	
04	SS	12	11 15 15		19-23	sp		SAND: fine to medium; well sorted; dense; brown; wet.	
05	SS	0	- - -		24-28	--		No recovery.	
06	SS	14	18 34 82/4"		29-33	sw		SAND & GRAVEL: very fine to coarse Sand, very poorly sorted; fine Gravel; extremely dense; brown; wet.	
07	SS	12	6 14 35		34-36	sp ml		SAND: very fine to medium, poorly sorted; some fine Gravel; dense; brown; wet. Bottom 2": Silt with trace fine Sand.	
08	SS	18			37-38	ml		SILT: very well sorted; some very fine Sand; brown; wet.	
09	SS	14	20 26		39	sw		SAND & GRAVEL: very fine to coarse Sand, very poorly sorted; fine to medium Gravel; very dense; brown;	

*ASTM D1586
SS = SPLIT SPOON ST = SHELBY TUBE
D = DENNISON C = CORE CS = CONTINUOUS SAMPLER
CT = CUTTINGS BA = BUCKET AUG.

ECT NAME AND LOCATION	PAGE NO.	HOLE NO.
Techalloy, Union, IL	2 of 3	MW-5D

CLASSIFICATION	SAMPLE INTERVAL	DESCRIPTION	NOTES
		wet.	
sp		**SAND**: fine to coarse, poorly sorted; little fine Gravel; pounding rock; brown; wet.	
sp		As above: very fine to fine; well sorted; pounding rock in slough material.	
sw		**SAND & GRAVEL**: very fine to coarse Sand, very poorly sorted; fine to medium Gravel; dense; brown; wet.	
sm gm		**SAND & SILT**: very fine to medium Sand, poorly sorted; some fine to medium Gravel; little Clay; gray to brown; wet.	Driller notes change in drill pressure at 82 feet (Clay layer).

CONTINUOUS SAMPLER POCKET AUG.	Techalloy Union, IL	PAGE NO.	HOLE NO.
		2 of 3	MW-5D

IL	PAGE NO.	HOLE NO.
	3 of 3	MW-5D

ION	NOTES
l; trace fine Gravel;	

Techalloy Union, IL	PAGE NO.	HOLE NO.
	3 of 3	MW-5D

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFWI~~ mw-5 Shallow
Project # 1989-06-01-0000
Lab ID: 9004G807-001
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~REW1~~ MW-5 Shallow
Project # 1989-06-01-0000
Lab ID: 9004G807-001
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	5	5	
Acetone	29	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	18	5	
1,1-Dichloroethane	4	5	J
1,2-Dichloroethene (total)	7	5	
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
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ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW1~~ MW-5 Shallow
Project # 1989-06-01-0000
Lab ID: 9004G807-001
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	27	5	
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	E	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW1~~ mw-5 shallow
Project # 1989-06-01-0000
Lab ID: 90046807-001
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW1~~ mw-5 shallow
Project # 1989-06-01-0000
Lab ID: 9004G807-001 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	E	25	
Tetrachloroethene	450	25	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFWI~~ mw-5 shallow
Project # 1989-06-01-0000
Lab ID: 9004G807-001 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	1100	50	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW2~~ MW-5 Deep
Project # 1989-06-01-0000
Lab ID: 9004G807-002
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
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ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~REW2~~ MW-5 Deep
Project # 1989-06-01-0000
Lab ID: 9004G807-002
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	4	5	J
Acetone	13	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	5	5	
1,1-Dichloroethane	6	5	
1,2-Dichloroethene (total)	2	5	J
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~REW2~~ mw-5 Deep
Project # 1989-06-01-0000
Lab ID: 9004G807-002
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	E	5	
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	BDL	5	U
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753:

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW2~~ MW-5 Deep
Project # 1989-06-01-0000
Lab ID: 9004G807-002
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW2~~ MW-5 Deep
Project # 1989-06-01-0000
Lab ID: 9004G807-002 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	300	10	
Trichloroethene	300	10	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW3~~ MW-C
Project # 1989-06-01-0000
Lab ID: 9004G807-003
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0094	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.018	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW3~~ MW-6
Project # 1989-06-01-0000
Lab ID: 9004G807-003
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	5	5	
Acetone	31	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	BDL	5	U
1,1-Dichloroethane	BDL	5	U
1,2-Dichloroethene (total)	BDL	5	U
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	14	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW3~~ MW-6
Project # 1989-06-01-0000
Lab ID: 9004G807-003
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	BDL	5	U
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	52	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW3~~ mw-6
Project # 1989-06-01-0000
Lab ID: 9004G807-003
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990
pmw-6
RE: ~~RFW3~~ Duplicate
Project # 1989-06-01-0000
Lab ID: 9004G807-004
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0046	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0070	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990
RE: ~~RFW3~~ MW-6 Duplicate
Project # 1989-06-01-0000
Lab ID: 9004G807-004
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	5	5	
Acetone	BDL	10	U
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	BDL	5	U
1,1-Dichloroethane	BDL	5	U
1,2-Dichloroethene (total)	BDL	5	U
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	12	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990
RE: ~~RFWS~~ Duplicate
Project # 1989-06-01-0000
Lab ID: 9004G807-004
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	BDL	5	U
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	36	10	
2-Hexanone	BDL	10	U
Tetrachloroethene	48	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75:

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990
mw-6
RE: ~~RFW3~~ Duplicate
Project # 1989-06-01-0000
Lab ID: 9004G807-004
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	24	5	
Acetone	44	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	E	5	
1,1-Dichloroethane	E	5	
1,2-Dichloroethene (total)	77	5	
Chloroform	4	5	J
1,2-Dichloroethane	11	5	
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	E	5	
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	35	5	
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	E	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1-Dichloroethene	720	25	
1,1-Dichloroethane	290	25	
1,1,1-Trichloroethane	E	25	
Trichloroethene	520	25	
Tetrachloroethene	570	25	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW4~~ MW-7
Project # 1989-06-01-0000
Lab ID: 9004G807-005 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	15000	500	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW5~~ MW-8
Project # 1989-06-01-0000
Lab ID: 9004G807-006
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~REW5~~ MW-9
Project # 1989-06-01-0000
Lab ID: 9004G807-006
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	5	5	
Acetone	BDL	10	U
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	54	5	
1,1-Dichloroethane	110	5	
1,2-Dichloroethene (total)	18	5	
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFWS~~ mw-8
Project # 1989-06-01-0000
Lab ID: 9004G807-006
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	130	5	
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	E	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW5~~ MW-8
Project # 1989-06-01-0000
Lab ID: 9004G807-006
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW5~~ MW-2
Project # 1989-06-01-0000
Lab ID: 9004G807-006 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	1500	50	
Tetrachloroethene	530	50	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW6~~ MW-9
Project # 1989-06-01-0000
Lab ID: 9004G807-007
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW6~~ MW-9
Project # 1989-06-01-0000
Lab ID: 9004G807-007
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	BDL	5	U
Acetone	25	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	BDL	5	U
1,1-Dichloroethane	BDL	5	U
1,2-Dichloroethene (total)	BDL	5	U
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	18	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW6~~ MW-9
Project # 1989-06-01-0000
Lab ID: 9004G807-007
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	BDL	5	U
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	3	5	J
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75.

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW6~~ mw-9
Project # 1989-06-01-0000
Lab ID: 9004G807-007
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW7~~ mw-2
Project # 1989-06-01-0000
Lab ID: 9004G807-008
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	BDL	5	U
Acetone	26	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	100	5	
1,1-Dichloroethane	86	5	
1,2-Dichloroethene (total)	30	5	
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Thursday April 26th, 1990

RE: ~~RFW7~~ mw-2
Project # 1989-06-01-0000
Lab ID: 9004G807-008
Sample Date: 04/05/90
Date Received: 04/06/90

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Arsenic, Soluble	0.0040 u	mg/L	0.0040
Cadmium, Soluble	0.0040 u	mg/L	0.0040
Chromium, Soluble	0.020 u	mg/L	0.020
Copper, Soluble	0.020 u	mg/L	0.020
Mercury, Soluble	0.00020 u	mg/L	0.00020
Lead, Soluble	0.0020 u	mg/L	0.0020

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW7~~ mw-2
Project # 1989-06-01-0000
Lab ID: 9004G807-008
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	99	5	
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	6	5	
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	16	10	
2-Hexanone	BDL	10	U
Tetrachloroethene	E	5	
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75:

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: ~~RFW7~~ mw-2
Project # 1989-06-01-0000
Lab ID: 9004G807-008 DL
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,1,1-Trichloroethane	E	10	
Tetrachloroethene	340	10	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: EB2 Equipment Blank
Project # 1989-06-01-0000
Lab ID: 9004G807-009
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10	U
Bromomethane	BDL	10	U
Vinyl Chloride	BDL	10	U
Chloroethane	BDL	10	U
Methylene Chloride	BDL	5	U
Acetone	35	10	
Carbon Disulfide	BDL	5	U
1,1-Dichloroethene	BDL	5	U
1,1-Dichloroethane	BDL	5	U
1,2-Dichloroethene (total)	BDL	5	U
Chloroform	BDL	5	U
1,2-Dichloroethane	BDL	5	U
2-Butanone	BDL	10	U
1,1,1-Trichloroethane	7	5	
Carbon Tetrachloride	BDL	5	U
Vinyl Acetate	BDL	10	U
Bromodichloromethane	BDL	5	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-753

ANALYTICAL REPORT

To: Tekalloy
Roy F. Weston, Incorporated
100 Corporate North, Suite 101
Bannockburn, IL 60015

Attn: Mr. Carlos Serna

Date: Monday April 23rd, 1990

RE: EB2 Equipment Blank
Project # 1989-06-01-0000
Lab ID: 9004G807-009
Sample Date: 04/05/90
Date Received: 04/06/90
Units: UG/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5	U
cis-1,3-Dichloropropene	BDL	5	U
Trichloroethene	BDL	5	U
Dibromochloromethane	BDL	5	U
1,1,2-Trichloroethane	BDL	5	U
Benzene	BDL	5	U
Trans-1,3-Dichloropropene	BDL	5	U
Bromoform	BDL	5	U
4-Methyl-2-pentanone	BDL	10	U
2-Hexanone	BDL	10	U
Tetrachloroethene	BDL	5	U
1,1,2,2-Tetrachloroethane	BDL	5	U
Toluene	BDL	5	U
Chlorobenzene	BDL	5	U
Ethylbenzene	BDL	5	U
Styrene	BDL	5	U
Xylene (total)	BDL	5	U

REFERENCE NUMBER 7

VILLAGE OF UNION
6606 MAIN STREET
UNION, ILLINOIS 60180
815/923-4153

December 5, 1990

Mr. J. Stanley Black, Ph.D.
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Black:

Per your request, I have enclosed a map showing the location of residents that have their own well and are not serviced by the Village water system. Below, I have also listed the names and addresses of these people as the map is alittle hard to read.

It was mentioned at our board meeting last night, that you planned on coming to our January board meeting- please be advised that this meeting will be held on Wednesday, January 2 at 7:00 because New Year's Day falls on the first Tuesday in January

Please feel free to call me if you have any questions.

Very truly yours,

Phyllis Schauer

Phyllis Schauer
Village Clerk

(b) (6), (b) (9)

PRIVATE WELLS, UNION

(b) (6), (b) (9)

[redacted]

REFERENCE NUMBER 8

FACT SHEET

TECHALLOY, INC., UNION, ILLINOIS

The Techalloy plant is located on 40 acres or the northwest corner of Jefferson and Olsen Roads just east of Union, Illinois. Techalloy employs 118 people in three shifts and processes stainless steel wire for use by industry.

In the course of conducting an environmental assessment in January 1990, Techalloy installed four groundwater monitoring wells and found that the groundwater near the facility buildings was contaminated with low levels of solvents, more specifically, 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and perchloroethene (PCE) and their by-products. These solvents were previously used by Techalloy to degrease wire.

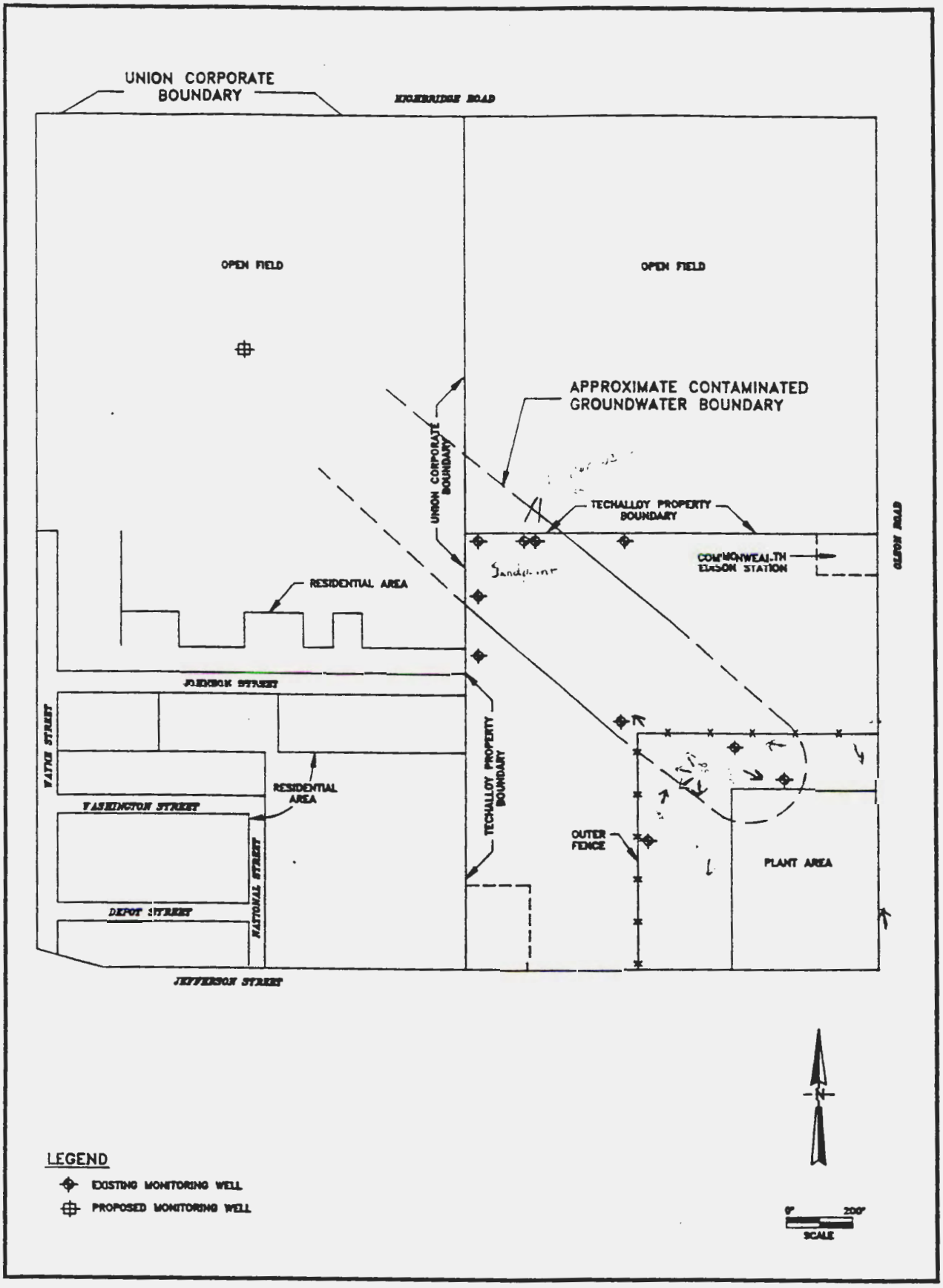
After finding the contaminated groundwater near the buildings, Techalloy installed six additional groundwater monitoring wells in the northwest corner of the facility. The wells were placed in this area because local groundwater flows in the northwesterly direction. Samples from these wells were collected and analyzed. The results indicated that contaminated groundwater is slowly moving away from the Techalloy facility. The detected concentrations of 1,1,1-TCA, TCE and PCE ranged from 0 to 15 parts per million. For six of a total of 10 wells, the concentrations exceed the U.S. Safe Drinking Water Act Maximum Concentration Limits for at least one of these chemicals. Techalloy then promptly informed the Illinois Environmental Protection Agency (IEPA) about this situation and committed to a groundwater recovery and treatment program under the IEPA Voluntary Clean-up Program.

AB895

Based on the analytical results, the zone of contaminated water appears to be very narrow and skirting the northeast corner of the Village of Union (see attached map). Residents of Union are not in danger of consuming this water because the Village is served by a municipal water supply. When the original facility assessment was conducted in January 1990, the municipal wells were sampled and subsequent analysis showed that the water supply was not contaminated.

Techalloy is working with the IEPA to quickly investigate and correct the situation that exists today. The next step will be for Techalloy to define the boundaries of the zone of contaminated groundwater (note the proposed well on the attached map) and develop a system to recover and treat the contaminated groundwater. Techalloy has initiated these steps. If you have any questions regarding this contamination of groundwater please call Mr. Richard Piwonka at 923-2131.

AB895



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SITE MAP AND ENVIRONS
TECHALLOY, INC.
UNION, ILLNOIS